



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: ECO-088

MAR 17 2004

Ref: 04-005-BLM

Henri Bisson, State Director
Department of Interior
Bureau of Land Management
222 West Seventh Avenue, #13
Anchorage, AK 99513-7599

Dear Mr. Bisson:

The U.S. Environmental Protection Agency (EPA) has completed review of the draft Environmental Impact Statement (EIS) for the **Alpine Satellite Development Plan (ASDP)** (CEQ No. 040002). Our written comments on the Draft EIS are provided pursuant to our responsibilities and authorities under the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and as a Cooperating Agency.

The draft EIS evaluates a proposal by ConocoPhillips Alaska, Incorporated (CPAI) to develop five satellite oil accumulations in the Colville River Delta and the Northeast National Petroleum Reserve-Alaska (NPR-A) (together, the Plan Area). In addition, the Draft EIS identifies "Full Field Development (FFD) as the reasonably foreseeable future oil and gas development in the Plan Area for the next 20 years." An agency-preferred alternative has not been identified.

The Draft EIS does not contain sufficient information to adequately evaluate the potentially significant adverse impacts of the proposed activities. The Colville River Delta is a sensitive and important ecosystem that provides significant subsistence values and resources. The EIS does not identify mitigation to ensure these values and resources are not significantly adversely impacted by the project. EPA has enclosed detailed written comments describing our substantive issues and concerns (Enclosure 1). In particular, EPA has identified areas requiring additional evaluation and information, which include the following:

- Analysis and consideration of the full range of actions, alternatives and impacts, including the State of Alaska's proposed road to Nuiqsut, the potential development of an Operations Center in Nuiqsut, and gas production;
- Additional economic, technical, and environmental information (listed in the enclosure) necessary to demonstrate the need for exceptions and amendments to the 1998 NPR-A ROD stipulations;

Alternative mitigation measures and environmental safeguards to replace those stipulations of the 1998 Northeast NPR-A ROD that would be excepted or amended;

An Economic Analysis for the CPAI development alternatives;

Quantitative estimates (e.g., percent, densities, acreages, size, amounts, and thresholds) of the intensity of the impact or effect of the CPAI development alternatives on physical, biological, and socio-economic resources of the Plan Area;

A description of the affirmative steps that will be taken to minimize the significant adverse impacts to subsistence resources and hunters for each proposed alternative to fulfill ANILCA requirements;

An assessment of the magnitude and significance of the cumulative environmental consequences of past, present, and future actions;

Identification of mitigation for the potentially significant adverse impacts to subsistence resources and users of the Plan Area;

Specific language regarding EPA's National Pollutant Discharge Elimination System (NPDES) permit information needs and analysis to fulfill our NEPA compliance responsibilities (This language was provided to BLM prior to the release of the DEIS, but was not incorporated);

Information and data on the hydrological effects, economic analysis, gravel resources and road alignments to ensure compliance with Clean Water Act Section 404(b)(1) Guidelines; and

Additional ambient air quality information and analysis, and mitigation and monitoring provisions to ensure compliance with Clean Air Act requirements.

CONOCOPHILLIPS' ALPINE SATELLITE DEVELOPMENT PLAN

The Draft EIS evaluates four Action Alternatives and a No Action Alternative. Each Action Alternative is based on a development "theme" -- Alternative A is the "Applicant's Proposed Action," Alternative B is the "Comformance with Stipulations," Alternative C is the "Alternate Access Routes," and Alternative D is the "Roadless Development." Alternative E is the "No Action Alternative."

Alternative A and Alternative C may result in significant adverse impacts that should be avoided in order to provide adequate protection for subsistence resources and users. Neither alternative would be consistent with oil and gas lease stipulations in the 1998 Northeast NPR-A IAP/EIS ROD. These stipulations were developed in order to provide mitigation or protection to subsistence and environmental resources. These stipulations should not be eliminated without

providing alternative mitigation measures or environmental safeguards that are at least as effective as those being excepted and amended. In particular, stipulations that would be excepted in Alternatives A and C are: (1) proposed construction of a bridge crossing the Nigliq Channel to access satellites within the Northeast NPR-A (CD-5, CD-6, and CD-7). This would result in short-term adverse impacts to subsistence fisheries and users; and (2) the proposed CD-6 production satellite would be located within a designated 3-mile setback for Fish Creek - a traditional subsistence use area for fishing and hunting.

Furthermore, development of the NPR-A satellites and the associated construction of gravel roads and pipelines would result in effects above the level of significantly restricting subsistence use for Nuiqsut hunters by displacement of key subsistence resources from the local areas. Therefore, corrective measures would require changes to these alternatives, evaluation of additional alternatives, and identification of additional mitigation measures to reduce impacts below the level of significance.

Alternative B and Alternative D would potentially avoid and minimize adverse impacts to the environmental and subsistence resources. Alternative B would conform with the 1998 Northeast NPR-A ROD stipulations, and therefore, maintain the environmental safeguards that were intended for this area through their adoption and implementation. As proposed in Alternative D, production pads would be developed without the use of gravel roads. Aboveground pipelines would be elevated a minimum of 7-ft high. These development components would reduce the significant level of displacement and deflection of key subsistence resources from the local area, which are important to the native subsistence hunters and users.

EPA'S ROLE AS A COOPERATING AGENCY

In December 2002, EPA signed a Memorandum of Understanding (MOU) to be a cooperating agency for the Alpine Satellite Development Plan (ASDP) Environmental Impact Statement. We became a cooperating agency because of EPA's potential decision regarding a NPDES permit for the ASDP so that this EIS could serve to fulfill our NEPA compliance responsibilities (40 CFR Part 6). In addition, we became a cooperating agency because of our independent review responsibilities under Section 309 of the Clean Air Act so that we could participate early and cooperatively with the Bureau of Land Management (BLM) and other Federal and State agencies in the identification of issues and concerns to be addressed in this document.

EPA has invested significant staff resources throughout the development of the Draft EIS to meet BLM's aggressive schedule for this project. We have provided substantive written and verbal comments on preliminary sections and the Preliminary Draft EIS; participated in a significant number of discussions and meetings at the staff and management level; participated in public scoping meetings in Anchorage, Barrow, Nuiqsut, and Fairbanks; and participated in an interagency site visit of the ASDP area. In addition, EPA has coordinated monthly government-to-government meetings with Tribes to fulfill our trust responsibilities under E.O. 13175

(*Consultation and Coordination with Indian Tribal Governments*). The enclosed comments reiterate the issues and concerns we have previously provided to BLM during this work together.

OTHER REASONABLE ALTERNATIVES

EPA's review of the Draft EIS indicates that there are adverse impacts that should be avoided in order to provide protection of the environmental and subsistence resources. At this stage of the NEPA process, there is an opportunity to reevaluate, modify or consider additional reasonable alternatives to avoid, minimize, and/or mitigate for potential adverse impacts to resources of the Plan Area.

Since the release of the Draft EIS, there has been significant new information relevant to the proposed project environmental concerns, which has a bearing on the proposed action and its impacts. The State of Alaska Department of Transportation & Public Facilities (ADOT&PF) has identified plans to construct an all-season gravel road from the existing Spine Road and a bridge over the Colville River to Nuiqsut. This would facilitate the use of Nuiqsut as an operations center for future access and development of oil and gas in the NPR-A. EPA strongly recommends that ADOT&PF's proposed Colville River Road and Bridge project and the Nuiqsut Operations Center (NOC) be included in the scope of this EIS and considered within the range of actions, alternatives and impacts to be evaluated. The State's proposed project appears to be a reasonable alternative to the applicant's Nigliq Channel crossing under Alternatives A and C.

CRITERIA FOR AN ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The Draft EIS does not identify an agency-preferred alternative. The Final EIS should clearly identify the criteria and/or standards that would be used to develop the agency-preferred alternative and the environmentally preferable alternative. EPA recommends that the selection of the environmentally preferable alternative for the ASDP EIS be based upon the following criteria: (1) fulfills the purpose and need of the applicant's proposed action; (2) complies with local, state, and federal laws, regulations, and requirements; (3) complies with Clean Water Act Sections 402 and 404; (4) is consistent with the 1998 Northeast NPR-A IAP/EIS ROD Stipulations; and (5) avoids and minimizes adverse impacts to subsistence resources and hunters.

FULL FIELD DEVELOPMENT PLAN

In addition to evaluating alternatives to CPAI's proposed expansion of the Alpine Satellites, the Draft EIS includes discussions of Full Field Development (FFD) in the Plan Area. The Full Field Development discussion attempts to analyze the hypothetical future oil and gas development within the next 20 years. The Draft EIS presents Full Field Development as alternatives to the applicant's proposed alternative.

While EPA supports and encourages development of alternatives and analysis of impacts at the full field scale across the entire Northeast NPR-A, Full Field Development has not been sufficiently analyzed or clearly identified as a proposed action in the Purpose and Need Statement for the Draft EIS. EPA notes that in the Notice of Availability (NOA) for the Draft EIS, BLM states that an agency-preferred alternative or Record of Decision will not be developed for Full Field Development. Therefore, EPA is not rating the Full Field Development alternatives at this time.

The level of analysis and information in the Draft EIS is inadequate as a basis for an agency decision or for tiering Environmental Assessments/Finding of No Significant Impact (EA/FONSI) for any significant future proposals for oil and gas development in the Plan Area. Since providing the needed analysis of Full Field Development in the Final EIS would unnecessarily delay the applicant's proposed schedule, (Full Field Development is not part of the applicant's proposed action) we believe the analysis should be provided to the public and the decision-maker in a separate, stand alone, programmatic EIS when specific issues and development proposals are better understood. Further and complete analysis of Full Field Development in a separate programmatic EIS would ensure that future oil and gas development in the Plan Area will have safeguards to protect important environmental and subsistence resources, and that the public and the decision-maker have been adequately and appropriately informed of likely environmental impacts resulting from Full Field Development.

While EPA strongly prefers, as we have said in previous discussions, that BLM analyze and evaluate the Full Field Development Plan in a programmatic EIS separate from the Alpine proposal, if BLM decides not to separate the analysis from this EIS at this time, the ASDP Final EIS should at least include a general description of the intended Full Field Development activities. A description should include identification of the types of future oil and gas development activities which would require a supplemental EIS and the types which could go forward with a lesser degree of environmental analysis, such as an Environmental Assessment (EA). For example, activities likely to require a supplemental EIS may include, but are not limited to: development of a multi-pad proposal, new processing facilities, new Seawater Treatment Plants (STPs), coastal facilities, road and bridge construction, offshore production pads, and facilities proposed within a designated setback or which would require an exception or amendment to a stipulation. The Final EIS or Record of Decision (ROD) should include a commitment by BLM to notify and include the locally affected people in all future development proposals that are submitted to BLM. This will help the public understand how they can participate in your decision-making process.

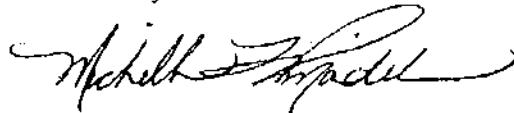
EPA RATING

Since the Draft EIS for the Alpine Satellite Development Plan does not identify an agency preferred alternative, EPA has assigned a rating for each action alternative under the CPAI Development Plan. For Alternative A (*Applicant's Proposed Action*) and Alternative C (*Alternative Access Routes*), we have assigned a rating of EO-2 (Environmental Objection-

Insufficient Information). EPA has assigned a rating of EC-2 (Environmental Concerns-Insufficient Information) to Alternative B (*Conformance with Stipulations*) and Alternative D (*Roadless Development*). We have no objections or concerns with Alternative E, the No Action Alternative. As discussed above, EPA has not assigned a rating for the Full Field Development Plan alternatives under this Draft EIS. Please find enclosed a copy of the EPA rating system used in conducting our environmental review. This rating and a summary of our comments will be published in the *Federal Register*.

EPA appreciates the opportunity to provide comments on the Draft EIS for the Alpine Satellites Development Plan. As a cooperating agency, we are committed to working closely with BLM and the other cooperating agencies to resolve our significant issues and concerns in a timely manner. Should you have any questions regarding our comments, please contact me at (206) 553-1272 or pirzadeh.michelle@epa.gov. Please have your staff contact Judith Leckrone Lee at (206) 553-6911 or lee.judith@epa.gov, or Mark Jen in our Alaska Operations Office in Anchorage at (907) 271-3411 or jen.mark@epa.gov.

Sincerely,



Michelle Pirzadeh, Director
Office of Ecosystems and Communities

Enclosures

cc: Jim Ducker, BLM, Anchorage
Joy Earp, COE, Anchorage
Jim Helfinstine, USCG, Juneau
Ken Taylor, State of Alaska, Anchorage
Louise Smith, USFWS, Anchorage
Larry Peltz, NMFS, Anchorage
Tom Loman, NSB, Anchorage
Sally Rothwell, ConocoPhillips, Anchorage
Carolyn Dick, EPA, OA, Washington, DC
Ken Mittelholtz, EPA, OFA, Washington, DC
Marcia Combes, EPA, Alaska Operations Office

ENCLOSURE 1
EPA REVIEW COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT
ALPINE SATELLITE DEVELOPMENT PLAN (ASDP)

ADDITIONAL INFORMATION NEEDED

The Draft EIS does not contain sufficient information to determine the scale, intensity, scope and specific environmental impacts, and mitigation from the proposed activities in the highly environmentally sensitive Colville River Delta, which provides significant subsistence values and resources. The U.S. Environmental Protection Agency (EPA) has identified the need for additional information and evaluation about a road proposal, a potential development of an Operations Center at Nuiqsut, gas production, changes to the stipulations from the Record of Decision for the Northeast Petroleum Reserve – Alaska (NPR-A ROD), environmental consequences, cumulative effects, impacts to subsistence resources and hungers, mitigation and monitoring, and other data and information needed to meet statutory requirements to protect or restore water and air resources.

State of Alaska's Proposed Road to Nuiqsut

The Draft EIS describes the State proposed road to Nuiqsut as an alternative considered but eliminated from detailed analysis (Section 2.6.9; Page 2-92). The Draft EIS indicates:

It is possible that if such a road were built on a schedule that meets CPAI's development timetable, it could provide access to CPAI's proposed production pads west of the Nigliq Channel and might make a road bridge from Alpine as proposed by CPAI unnecessary.

In December 2003, the Alaska Department of Transportation and Public Facilities (ADOT&PF) submitted a permit application to the U.S. Army Corps of Engineers for the Colville River Road and Bridge project. The ADOT&PF proposes to construct a 16-mile all season road from the existing Spine Road to Nuiqsut. A bridge would be constructed to cross the Colville River and eventually connect to Nuiqsut. On January 21, 2004, during an interagency meeting, ADOT&PF presented their plans to construct the Colville River Road and Bridge in Winter 2006/2007, which is the same construction schedule as proposed by the applicant for the Nigliq Channel Bridge.

Since both of these projects are on parallel schedules, EPA recommends that the Scope of the ASDP EIS include evaluation and analysis of the Colville River Road and Bridge project to determine how they effect one another and if one is a more reasonable alternative than the other. EPA believes, based on our current understanding of the projects, that the Colville River Road and Bridge project could fulfill the purpose and need of the applicant's proposed action and may be environmentally preferable over the Nigliq Channel bridge crossing.

Nuiqsut Operations Center for Future Oil and Gas Development in NPR-A

The Draft EIS describes the Nuiqsut Operations Center (NOC) as an alternative considered but eliminated from detailed analysis because the NOC would not be economically viable (Section 2.6.10; Page 2-92). However, EPA believes that additional evaluation is needed to determine if the NOC could reasonably serve as a staging area and transportation hub to support construction, drilling, and operation of CPAI's proposed drill sites at CD-5, CD-6, and CD-7 within the Northeast NPR-A. The NOC proposal should be included in this EIS, especially in conjunction with the State's road project. The NOC may be economically viable after the ADOT&PF constructs the Colville River Road and Bridge connecting the Spine Road to the Village of Nuiqsut. The NOC could facilitate oil and gas development of the NPR-A by eliminating costs associated with the construction of winter ice roads and bridges, and transportation and operations using airfreight.

An ADOT&PF funded report¹ provides significant new information relevant to proposed project environmental concerns, which have a bearing on the proposed action or its impacts. This report identifies a number of benefits to oil and gas development in NPR-A as a result of an all season road to Nuiqsut. If a base camp were to be established on the west side of the Colville River near Nuiqsut, this new base camp could partially reduce the costs related to remoteness of the area [NPR-A]. Use of this new road-connected base camp as a staging facility would reduce the cost of development by 15 percent for fields located west in NPR-A (Page 6-6). The potential savings in development cost for a field similar in size to Alpine could be about \$300 million (Page 6-7).

EPA recommends that collectively ADOT&PF's proposed Colville River Road and Bridge project and the NOC be included in the Scope of the ASDP EIS and considered within the range of actions, alternatives and impacts to be evaluated. The applicant is proposing a road bridge over the Nigliq Channel to access NPR-A production satellites (CD-5, CD-6, and CD-7). The Colville River Road would also serve to access NPR-A production satellites. These are similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing and geography [40 CFR §1508.25(a)(3)]. In order to adequately assess the combined impacts of similar actions and reasonable alternatives to such actions, EPA recommends that it is reasonable to have this analysis and discussion in the existing ASDP EIS.

Oil and Gas Production in the Plan Area

Pursuant to NEPA requirements, oil production and gas production may be considered potentially connected and could be cumulative actions. EPA recommends that both oil production and gas production be analyzed and evaluated as part of the proposed action and the environmental consequences discussed in this EIS. To this end, the Final EIS should include estimates of projected oil and gas reserves in the ASDP Area, projected oil and gas production rates for proposed production pads, and revenues generated, etc.

¹ CH2MHill (2003). A Resource Transportation Analysis, Phase II - Dalton Highway to Nuiqsut and NPR-A Access

The U.S. Geological Survey has prepared a number of reports on the petroleum resources of the NPR-A.² The State of Alaska, Division of Oil and Gas (DOR) would also have information to provide estimates of oil and gas resources in the Colville River Delta and the Eastern NPR-A.³ EPA recommends citing these reports in the Final EIS and utilizing this information to estimate the technically and economically recoverable oil and gas reserves of the ASDP area.

Consistency with Stipulations in the 1998 Northeast NPR-A ROD

The Congressional mandate from the Naval Petroleum Reserves Production Act (NPRPA) is to conduct “an expeditious program of competitive leasing of oil and gas” and at the same time to “protect the significant subsistence, environmental, fish and wildlife, and historic or scenic values” consistent with the requirements of the Act for the exploration of the National Petroleum Reserve-Alaska. Moreover, the Alaska Native Interest Lands Conservation Act (ANILCA) §810 mandates special consideration for subsistence resources and uses.

EPA supports the decisions and the stipulations adopted in the 1998 NE NPR-A IAP/EIS ROD to fulfill these mandates. According to the ROD, these stipulations were developed through an extensive public participation process including Tribes, Native Corporations, and local, State, and Federal agencies to protect surface resources and subsistence activities throughout the planning area. The Northeast NPR-A stipulations should not be excepted and amended without providing alternative mitigation measures or environmental safeguards that were assured by their adoption and implementation. The Final EIS should provide additional information and discussions sufficient to support the findings for exceptions to the stipulations, such as economic, technical, and environmental information, and how the objectives of the stipulations would be fully met.

² Attanasi, Emil D. (2003) Economics of Undiscovered Oil in Federal Lands on the National Petroleum Reserve, Alaska. U.S. Geological Survey Open-File Report 03-44.

Bird, Kenneth J. and Houseknecht, David W. (2002). U.S. Geological Survey 2002 Petroleum Resource Assessment of the National Petroleum Reserve in Alaska (NPRA): Play Maps and Technically Recoverable Resource Estimates. Open-File Report 02-207.

USGS Fact Sheet 045-02 (2002). U.S. Geological Survey 2002 Petroleum Resource Assessment of the National Petroleum Reserve in Alaska (NPRA).

³ Kornbrath, Richard W., Myers, Mark D., Krouskop Donovan L., Meyer, John, F., Houle, Julie A., Ryherd, Timothy J., and Richter, Kent N. (1997). Petroleum Potential of the Eastern National Petroleum Reserve-Alaska. State of Alaska, Department of Natural Resources, Division of Oil and Gas.

The Draft EIS indicates that if the applicant's proposed action were adopted, exceptions would be made to allow location of CD-6 and its associated road and pipeline within the 3-mile setback for Fish Creek (Stipulation 39[d]). Additional exceptions would be required to locate oil infrastructure within 500-ft of water bodies (Stipulation 41). According to the 1998 ROD, these environmental setbacks help assure subsistence users' access to important subsistence areas and that fish and game in these areas are not disturbed (Page 15).

The Draft EIS indicates that oil accumulations centered within the large setback area for Fish Creek may not be economically reached with currently available technology (Page 2-55). The Draft EIS does not discuss the technological problems and costs associated with locating CD-6 and its associated infrastructure outside of the 3-mile setback as compared to locating CD-6 inside the setback area. EPA recommends that this economic and technological information be included in the Final EIS, as well as the availability of environmentally preferable alternatives and alternative means to satisfy the objective of the stipulation.

In addition, information and discussions regarding the following stipulations should be included in the Final EIS:

Stipulation 48 (Facility Design and Construction) prohibits permanent roads (i.e., gravel, sand) connecting to a road system or docks outside the planning area. This stipulation would have to be amended in order to allow construction of the Nigliq Channel Bridge as identified in Alternatives A and B. According to the 1998 NE NPR-A ROD, this stipulation was developed to avoid competition for subsistence resources from outside that improved access to the area might bring. EPA recommends that other environmentally reasonable alternatives (e.g., the State's proposed Colville River Road and Bridge) be considered in the Final EIS before making a general amendment to this stipulation.

Stipulation 58 (Oil Field Abandonment) requires that all facilities shall be removed and sites rehabilitated. The Final EIS should discuss this requirement under *Features Common to Alternatives* (Section 2) for abandonment of gravel roads, airstrips, production pads, aboveground pipelines and VSMs, etc. The requirements for oil field abandonment should be considered and expanded as a mitigation measure and as it relates to reducing the level of cumulative impacts. For example, gravel source sites should be designed and constructed to function as water resources for future use (Stipulation 40) and/or rehabilitated to provide for additional habitat for fish, waterfowl, and other wildlife. The applicant is proposing a new gravel source site at the Clover Potential Site. Other facilities such as production pads, gravel roads, etc., should also be identified as opportunities for future abandonment and rehabilitation in the Plan Area.

Stipulation 1 (Waste Prevention, Handling, and Disposal and Spills) indicates that a waste management plan shall be prepared for leases to achieve specific waste-reduction and prevention goals for all phases of exploration and development. The plan [Waste Management Plan] shall identify all waste streams that will be produced during each operation by type, volume, and toxicity and the method of disposal. EPA recommends that a waste management plan be included in the Appendix of the Final EIS.

At a minimum, the Final EIS should characterize and disclose information on waste management for CPAI's development plans. This information should include identification and estimates of waste streams by type, volume, and toxicity produced during construction and operation for drilling muds and cuttings, reserve pit fluids, other drilling related material, oil, diesel, solvents, glycol, and other chemicals for machine operation and maintenance, etc. *The Alaska Waste Disposal and Reuse Guide (August 2002)* provides an extensive characterization of materials and sources of waste, classification, and disposal/reuse options. This guide provides specific information regarding the type of wastes and method of disposal for the existing Alpine Facility. The Final EIS should include information regarding type, volume, and toxicity of waste streams for all proposed and hypothetical production and processing satellite pads under the CPAI development plan.

These estimates for waste streams can be based on the type and volume generated from the existing Alpine facilities (e.g., CD-1 and CD-2). The Alaska Oil and Gas Conservation Commission (AOGCC) regulates Class II underground injection wells and may have data and information regarding the types and volumes of waste material disposed of on an annual basis. *The Waste Analysis Plan for the Alpine Class I Injection Well WD-02 (December 2002)* provide projected waste composition and approximate amounts.

Stipulation 32 (Facility Design and Construction) encourages lessees to implement gravel-reduction technologies (e.g., insulated or pile supported pads) given the paucity of gravel sites in the planning area. In particular, under CPAI's development plan, the total estimated sand and gravel needs range from 756,000 to 3.0 million cubic yards. At this time, it is unclear what the quality and quantity of gravel resources are for the Clover Potential Gravel Source. Therefore, additional consideration of technologies to the development of gravel production pads, roads, and airstrips should be included in the Final EIS. Other reasonable alternatives may include synthetic reinforcement (e.g., fabrics, membranes, geocells, etc.), insulating materials to decrease the thickness of road sections, and soil stabilizing agents, among other things.

Economic Analysis

NEPA provides for the inclusion of an economic analysis to be used in determining the choice among environmentally different alternatives being considered for the proposed action and for evaluating the environmental consequences and their effects (40 CFR §1508.8). Furthermore, pursuant to the Clean Water Act Section 404, alternatives are evaluated based on a threshold of the least environmentally damaging practicable alternative, which considers costs.

If the stated need for the applicant's development plan is to "generate financial return on its investment in oil and gas leases," then it is important for agency decision-making and public understanding to be provided with an economic analysis associated with the applicant's proposed action as compared to the other reasonable alternatives and the environmental consequences to the public and Tribal resources of the NPR-A. EPA recommends including an economic analysis in the Appendix of the Final EIS.

In a previous discussion, EPA has provided BLM with hardcopies of the economic analysis from the Beaufort Sea Oil and Gas Development/Northstar and the Liberty Final Environmental Impact Statements. The Department of Interior/Minerals Management Service (DOI/MMS) was the lead federal agency for the Liberty Final EIS. These documents provide examples on the development of an economic analysis for each alternative in the ASDP EIS that is consistent with DOI agencies.

At a minimum, an economic analysis for the Final EIS should include, but not be limited to, the following:

- (a) Estimates of economically and/or technically recoverable oil (bbbl) and gas (mmscf) resources in the Plan Area;
- (b) Estimates of production rates for oil and gas from each proposed satellite for the applicant's development plan;
- (c) Financial costs and benefits associated with development and operation for the applicant's development plan; and
- (d) Environmental costs and benefits to the public and Tribes for the applicant's development plan.

Environmental Consequences

Consistent with NEPA requirements, this section forms the scientific and analytic basis for the comparison under Alternatives and includes discussions of:

- (a) Direct effects and their significance and
- (b) Indirect effects and their significance (40 CFR §1502.16).

Although the Environmental Consequences Section of the Draft EIS considers the context of the Plan Area for the reasonably foreseeable 20 years, additional evaluation should be conducted regarding the intensity (severity) of the impacts - direct and indirect, and cumulative for each resource. Other factors that have been used to define the intensity of effects include the magnitude, geographic extent, duration, and frequency of the effects. The Draft EIS identifies the potential impacts of the proposed alternatives to the resources. However, there are no quantitative estimates (e.g., percent, densities, acreages, size, amounts, thresholds, etc.) provided to conclude what the intensity of the impact or effect would be on the physical, biological, and socio-economic resources from the CPAI development alternatives. Identification of the types of impacts from the proposed action, including the alternatives, does not provide the public or the decision maker with a good basis of comparison of the effects. EPA recommends that additional analysis and evaluation be made to quantify the intensity of the effects to resources according to NEPA requirements and CEQ guidance.

Cumulative Effects Analysis

The Draft EIS has identified the potential types of impacts (direct and indirect) to physical, biological, and social resources from the proposed alternative, including the alternatives. However, the Draft EIS does not adequately assess the magnitude and significance of the cumulative environmental consequences of past, present, and future actions.

EPA recommends further development of the cumulative impacts analysis for the ASDP EIS to be consistent with Council of Environmental Quality Guidance, *Considering Cumulative Effects Under the National Environmental Policy Act* (1997).

The CEQ handbook provides examples of how to characterize cumulative impacts: (1) categorizing the magnitude and significance of effects to resources into a set of classes (e.g., high, medium, and low) and (2) using best professional judgment. Such a classification system could be used in the Final EIS as the basis for focusing agency efforts on mitigation and monitoring for those resources where the cumulative impacts may be considered "high" or above the level of significance. Significance thresholds should be estimated for the resource categories evaluated in this EIS. Significance thresholds for air quality should include the National Ambient Air Quality Standards (NAAQS), which are concentrations known to cause significant human health or other environmental effects. In addition, the Alaska Water Quality Standards should serve as a threshold for evaluating water quality impacts in the Plan Area.

Alaska Native Interest Land Claims Act (ANILCA) §810 Analysis of Subsistence Impacts (Appendix B)

The Alaska Native Interest Lands Conservation Act (ANILCA) §810 mandates special consideration for subsistence resources and uses. Appendix B of the Draft EIS provides a subsistence evaluation which indicates that for Alternatives A, B, and C, the "effects are above the level of significantly restricting subsistence use for the native village of Nuiqsut." Specifically, the statute requires that if there are significant impacts to subsistence uses and resources, the Federal government is required to ensure that reasonable steps will be taken to minimize adverse impacts. Reasonable steps may include, but are not limited to, reevaluating alternatives and components (e.g., pipeline heights and separation distances from roads); setbacks for water bodies or migration corridors; mitigation measures, research and monitoring, etc. The Final EIS should include a description of the affirmative steps that will be taken to minimize significant adverse impacts to subsistence resources and uses for each proposed alternative.

Subsistence Resources

The Draft EIS identifies caribou as a key subsistence resource in the Plan Area. Improperly located and designed elevated pipelines and gravel roads may become barriers for caribou migration and may restrict movement from traditional subsistence hunting areas. In addition, noise from low flying aircraft and helicopters may result in displacement of caribou from their migratory paths. The Draft EIS does not provide adequate discussion of mitigation measures to reduce significant adverse impacts to caribou migration. EPA recommends that pipelines be elevated a minimum of 7-ft high, and pipelines and gravel roads be maintained a minimum 500-ft separation to minimize barrier effects to caribou.

Based on field data and traditional ecological knowledge, the Final EIS should include maps that identify caribou migratory routes and corridors, and where the migratory patterns intersect with the proposed roads and pipelines. EPA recommends that the Final EIS include both this analysis of caribou migratory routes and effective mitigating measures to address the impacts for each Alternative.

Freshwater fish have been identified as an important subsistence resource for approximately one-third of the subsistence diet for subsistence users of the Plan Area. Short-term significant adverse impacts to these subsistence fisheries resources and activities are a concern during construction of the proposed bridge over the Nigliq Channel. The Final EIS should include figures/maps that identify the specific location of subsistence fishing sites, fishnets and camps for the Nigliq Channel, Fish and Judy Creeks, Ublutuoch River, and the Colville River and Delta. The location of Nuiqsut's major under ice fishing areas should also be included. These maps would assist in the analysis of the impacts resulting from each proposed alternative and provide an assessment of which alternative would have the least impacts to subsistence resources and activities. The Final EIS should include mitigation to avoid and minimize short- and long-term impacts to subsistence fisheries resources of the Plan Area.

Subsistence Hunters and Users

The adjacent vicinity of Nuiqsut is an important traditional subsistence resource area for caribou. There are potential significant adverse impacts to subsistence hunter success if development deflects caribou away from the areas where locals traditionally hunt or make the areas where caribou are found near the village undesirable for hunting. In addition, subsistence hunters and users avoid shooting near oil and gas infrastructure, which results in hunters traveling greater distances away from traditional subsistence areas. This results in changing subsistence use patterns, decrease in the rate of harvest success, and potential competition for key resources among different communities in the area. These effects may last for multiple hunter generations. Furthermore, the proposed bridge crossing over the Nigliq Channel may affect navigability and access to subsistence fishing in the Nigliq Channel and Fish Creek, and to seasonal sites for hunting seals and bowhead whales in the Beaufort Sea. EPA recommends that additional mitigation measures be developed to avoid and minimize significant adverse impacts to subsistence hunters and users, and be included in the Final EIS.

Environmental Justice

The Environmental Justice (EJ) evaluation presented in the Draft EIS uses State of Alaska average socio-economic characteristics as reasonable reference statistics to determine if disproportionate impacts to low income and/or minority people of color communities could result from the proposed action. The Draft EIS correctly concludes that on the basis of the much higher percentage of minority composition in the communities of Anaktuvuk Pass, Atkasuk, Barrow and Nuiqsut than in the state as a whole, an evaluation of disproportionate impacts of the ASDP is required. Subsistence is given special consideration in determining the requirements for and evaluations of disproportionate impacts. The Draft EIS also correctly concludes that since subsistence production and consumption are important characteristics of the four North Slope communities, additional consideration of disproportionate impacts from subsistence activities must also be considered.

The Draft EIS does not include a summary of comments heard from the native communities during scoping for the project, and how the comments that were heard were incorporated into the development of Alternatives. While the Draft EIS states that a separate summary document which includes the full content of comments heard during scoping is

available, the Final EIS should include in the Appendix the Scoping Summary Report (March 2003), in addition to the written comments received on the Draft EIS. Moreover, the Final EIS should discuss how comments are incorporated into the decisions made during the EIS process.

The Draft EIS discusses EJ and cumulative effects on subsistence resources, activities and communities. The Final EIS needs to include a section, appendix, or table that describes mitigation measures to reduce the level of significant adverse impacts to EJ communities.

Mitigation Measures

Mitigation measures are requirements to demonstrate to the public and decision makers that significant adverse impacts are reduced below the level of significance. However, the Draft EIS does not provide sufficient information regarding mitigation measures to address all the affected physical, biological, and socio-cultural resources identified. A new section, appendix or table should consolidate the proposed mitigation measures that are currently being considered and how they will reduce or minimize adverse impacts to subsistence resources and users below the level of significance.

The Draft EIS identifies certain mitigation measures that would not be implemented until post-construction/development. These measures would have no effect on the decision-making process that occurs prior to construction actually taking place. For example, the mitigation measure of creating advisory groups to address impacts to subsistence uses and resources would have no effect on the decisions made regarding the placement of the actual location, type, or design of the bridge crossing over the Nigliq Channel. An advisory group would not be able to effect decisions that would occur pre-construction. EPA recommends that the Final EIS include adequate mitigating measures that are timely and would be considered or implemented during the decision-making process that occurs prior to construction.

Monitoring Provisions

EPA recommends that the Final EIS include a section, appendix, and or table that describes all of the proposed monitoring that would be required to support agency actions and decisions. There are a number of types of monitoring that should be discussed and addressed in the Final EIS:

Effectiveness Monitoring. This type of monitoring would be to ensure effectiveness of the proposed mitigation measures described in the Final EIS.

Compliance Monitoring. Each federal, state, and local agency is required to ensure compliance with the permits they issue. EPA's NPDES permit requires that the permittee comply with monitoring requirements for certain parameters, locations, frequency, and type.

Collaborative Monitoring. The Final EIS should indicate how the lead and cooperating agencies would collaborate on monitoring efforts, such as establishing an interagency monitoring team.

Clean Water Action §402

■ National Pollutant Discharge Elimination System (NPDES) Wastewater Discharges

On January 29, 2004, EPA received from the applicant a complete Notice of Intent (NOI) application requesting coverage for domestic wastewater (001) and graywater discharges (002) under the General NPDES Permit for Facilities Related to Oil and Gas Extraction on the North Slope of Alaska – Permit Number AKG-33-0000. To meet our NEPA compliance responsibilities using the information and analysis in this NEPA document, EPA will require that the Final EIS include an appendix with the following information: a copy of the applicant's NOI; topographic or aerial photographs showing the general location of the facility; and expected flow direction of the discharge. Under separate cover, EPA will provide a copy of more detailed information we require to be included into the Appendix of the Final EIS.

EPA plans to use the Final EIS as the opportunity for public notification and comment regarding EPA's decision to issue an NPDES permit for the Alpine Satellite Development Plan. If EPA determines that coverage under the General NPDES Permit is appropriate and we have fulfilled our NEPA compliance responsibilities, then we will issue a Record of Decision (ROD) soon after the conclusion of the 30-day wait period for the Final EIS.

In order for EPA to fulfill our NEPA compliance responsibilities and to provide the applicant with a timely decision regarding NPDES permit coverage for the ASDP, the following language must be included in the Final EIS (Section 2.3.11.5; Page 2-32):

EPA is a cooperating agency for the ASDP EIS because of our NEPA compliance responsibilities for issuing an NPDES permit under Section 402 of the Clean Water Act. Discharges associated with oil and gas facilities are subject to effluent limitations and are considered new sources, and therefore, require a NEPA evaluation prior to the issuance of an NPDES permit (40 CFR §122).

The EPA General NPDES Permit may be used to authorize new source discharges specified in the General Permit. However, EPA may determine that an Individual NPDES Permit may be required if the discharge fails to meet the applicability requirement or if certain conditions exist as indicated in Section I.F. of the General Permit. This may require additional NEPA compliance that is tiered from this EIS.

EPA expects that the General Permit or any Individual Permit developed would have similar limitations. Domestic wastewater discharges associated with the General NPDES permit shall be limited and monitored according to the following effluent limitations (Table 2.3.11-2). However, applicants for either a General Permit or an Individual Permit may apply to the State of Alaska Department of Environmental Conservation (ADEC) for a mixing zone for fecal, chlorine, and dissolved oxygen. For a General Permit, the mixing zone would be subject to public notice prior to permit coverage being authorized. For an Individual Permit, the mixing zone would be included in ADEC's water quality certification of the permit. It is expected that the requirements would be the same under either permitting alternative.

Please relocate "Table 2.3.11-2" to follow immediately after this paragraph.

Clean Water Action §404

■ Least Environmentally Damaging Practicable Alternative

The Draft EIS does not evaluate all reasonable alternatives to ensure compliance with the Section 404(b)(1) Guidelines. As required under CWA Section 404, the Alternatives Analysis should include evaluation of the discharges of dredged or fill material at other locations in waters of the United States or ocean waters [40 CFR §230.10(a)(1)(ii)]. For the applicant's proposed bridge crossing to access NPR-A production satellites, a reasonable alternative location to the Nigliq Channel is the Colville River, which is being proposed by the State of Alaska. Therefore, these alternative locations should be evaluated in the Final EIS for purposes of meeting CWA Section 404 requirements.

The 404(b)(1) Guidelines evaluate alternatives based on the least environmentally damaging practicable alternative. The Draft EIS does not include an economic analysis for the ASDP project and each proposed alternative. EPA recommends that an economic analysis be included as an appendix to the Final EIS. Without this analysis, it would not be possible for EPA to determine whether these alternatives evaluated in the ASDP EIS are practicable and would comply with the Section 404(b)(1) Guidelines.

■ Hydrological Analysis and Evaluation

The Draft EIS should include additional information and evaluation of the hydrological effects of gravel roads, production pads, and pipeline supported VSMs. The hydrological evaluation should include, but not be limited to, ice jams and ice effects, flood conditions, erosion potential and protection, wind driven waves, designing adequate side slope protection, water surface elevations, designing and siting gravel pads and roads to be above flood events. In particular, hydrological effects are of significant concern in the Colville River Delta. The Final EIS should include such hydrological information, data, and analyses. Additional tables and figures to summarize this additional hydrological information and analysis should be included in the Final EIS.

The Draft EIS provides hydrologic information for the Colville River. However, clarification is needed to explain whether these data are from the main stem and can be appropriately extrapolated to characterize the hydrology of the Nigliq channel. Hydrologic information specific for the Nigliq Channel is critical since the applicant is proposing to construct a bridge to cross this water body. EPA recommends that site-specific hydrologic information and analysis is included in the Final EIS for the Nigliq Channel. This information may include, but not be limited to, the following: estimates of peak discharge, velocity, and patterns; channel stability; sediment and bed load transport; flooding regime - 50 year to 100 year flood frequency and magnitude; storm surges; spring break up conditions; ice jams and scouring; cross-sectional profiles of channel morphology and water surface elevations; stream bank migration and erosion rates, etc.

In particular, the west shoreline of the Nigliq Channel is eroding and should be mapped to determine historical bank migration rates. Furthermore, scouring of the Nigliq Channel bottom during spring break up may occur. Local pier scour could occur depending on the pier configurations. An analysis of the in-stream pier designs should be conducted to minimize

effects of localized scouring. This additional hydrological information is necessary for properly siting of the bridge crossing location and designing of in water piers and abutments.

Furthermore, the Final EIS should contain additional discussion of design options other than extensive armoring as a stabilization method to protect bridges and crossings from excessive scour. Appropriate site decisions and other design features should be incorporated into bridge design to help meet these goals and minimize disturbance flow patterns. For example, the Kuparuk River Bridge may be used to highlight the problems associated with improperly designed and constructed bridges on the North Slope that do not adequately accommodate the extreme Spring peak breakup flooding and scouring. Lessons learned from the Kuparuk Bridge crossing should be incorporated into the design of the proposed Nigliq Channel crossing.

In addition, the locations for the proposed Nigliq Channel Bridge crossing under Alternative A and Alternative C should be described. The Final EIS should include a discussion regarding the siting criteria that were used and explain why these locations were identified. Historical information related to the channel stability at these locations should be included. Aerial photographs, observations, and local and traditional knowledge should be used to interpret the trend of the channel migration in this area. This information should be included in designing a bridge that will be structurally sound, yet minimize significant adverse impacts to subsistence fisheries resources. The Final EIS should include additional hydrology data specific for the Nigliq Channel to inform the public and decision-makers.

The same level of hydrological information and data is necessary for the proper design and siting of the bridge over the Ublutuooh River. EPA recommends that additional site-specific hydrological information be provided in the Final EIS.

The Draft EIS indicates that certain water bodies would require the use of culvert batteries. Additional information and discussion is needed to explain the basis for proposing culverts and culverts batteries rather than using bridge crossings. Our concern with culverts is that they may become blocked during certain times of the year and may impede fish passage. EPA recommends that the Final EIS include a hydrological basis for why culvert batteries are being proposed for certain water bodies rather than bridge crossings.

■ **Gravel Mining and Site Rehabilitation Plan for the Clover Potential Site**

Good quality gravel resources are limited in the NPR-A. The Draft EIS indicates that gravel resources for the development of CD-5, CD-6, and CD-7 would be accomplished using the Clover Potential Gravel Site. The DEIS does not provide information to indicate the quality and quantity of the gravel resources from this site. Gravel resources for constructing CD-3 and CD-4 would be obtained from the existing permitted ASRC gravel source. However, past experience with the Alpine Facility indicates that material from the ASRC source contains relatively high concentrations of fines and sand, which requires approximately two seasons to drain before becoming suitable for supporting facilities. EPA recommends that gravel resources from the Clover Potential Gravel site be tested and characterized (e.g., particle size, percent silt, sand, gravel, etc.) to demonstrate its suitability as fill material for purposes of 404(b)(1) compliance. The results of this analysis should be included in the Final EIS.

Furthermore, the Final EIS should provide additional details for how gravel would be mined from the potential site in order to evaluate the impacts on the environment. In order to mitigate for the impacts to the tundra and habitat, the Final EIS should provide details for the rehabilitation of the gravel source site after mining is completed. Rehabilitation could include using this gravel site as a future water source for ice roads and/or habitat for fish and wildlife. We recommend that a mining and site rehabilitation plan be incorporated into the EIS.

■ Ice Road Routes

The Draft EIS identifies the length of ice roads for each alternative. Ice roads may result in a barrier for ice break up and alter break up and flow patterns, reduce fish habitat or contribute to restricting free movement of fish. The Final EIS should include figures/maps depicting the location of proposed ice road routes during each winter construction season for all proposed five satellite production pads, and access to gravel resources. In addition, this map should depict the location of lakes, which will serve as freshwater sources for these ice roads.

Safe Drinking Water Act (SDWA)

Pursuant to the Safe Drinking Water Act, EPA has the authority to grant aquifer exemptions. The State of Alaska (Alaska Oil and Gas Conservation Commission-AOGCC) cannot exempt aquifers unless EPA concurs with the findings of the State that an underground source of drinking water (USDW) exists and specific criteria for an aquifer exemption are met. An aquifer exemption is a process by which an aquifer considered an USDW (40 CFR §144.3) is exempt from protection as a USDW according to specific criteria under 40 CFR §144.7 and 40 CFR §146.4. Therefore, in the Final EIS, EPA recommends that the sentence (Section 4A; Page 4A.2-9): "The Alaska Oil and Gas Conservation Commission (AOGCC), on proper showing, can exempt an aquifer with total dissolved solids between 3,000 and 10,000 ppm" be replaced with:

The State of Alaska, upon receipt of a Class II permit application may submit a request for approval of an aquifer exemption to EPA, Region 10. An aquifer exemption may be determined to be a minor or substantial revision of the State's program. After consultation with EPA Region 10, an aquifer exemption may be considered if EPA concurs with the findings of the State of Alaska that a USDW exists (USDW, 40 CFR §144.3) and specific criteria for an aquifer exemption (40 CFR §144.7 and 40 CFR §146.4) are met.

Furthermore, the Draft EIS indicates (Section 4A; Page 4A.2-9): "Approved drilling wastes would be injected at approved volumes and rates into the approved Class II disposal wells at CD-1, not new wells at the satellites." This statement warrants additional clarification that approved drilling wastes for disposal in a Class II disposal well, as well as annular injection, is restricted to those drilling muds and cuttings that came up to the surface from down hole sources (40 CFR §144.6). These wastes do not include fluids that are generated from grey water, black water, sanitary and domestic waste water, storm water or other fluids that are not "up from down hole sources" and exempt from the Resources Conservation Recovery Act (RCRA). EPA recommends the Final EIS state that any annular disposal of

wastewater and/or transport of waste material for annular disposal are done in compliance with Federal requirements under the Safe Drinking Water Act.

According to the Draft EIS (Section 4A; Page 4A.2-17): "Class II disposal wells allow for the disposal of non-hazardous industrial wastes, domestic waste water, storm water, and certain wastes that are exempt under specific federal regulations [40 CFR §261(b)(5)]." This statement needs to be revised in the Final EIS to clarify that one step to authorize Class II injection wells includes the determination that the waste is "non-hazardous." Another step is the determination under the SDWA requirements that the waste must come up from down hole sources.

Clean Air Act (CAA)

The Final EIS should provide quantitative estimates of non-criteria pollutants (188 HAPS listed under Section 112 of the CAA) emissions such as volatile organic chemicals (VOCs) from drilling or operational phases. In addition, this information should be incorporated as part of the Ambient Air Quality Analysis for each proposed production satellite (CD-3, CD-4, CD-5, CD-6, and CD-7).

The Draft EIS should provide full disclosure of GHG via a standard emission summary, which may include baseline emissions, project related emissions, and emissions from reasonably foreseeable activities. A disclosure of any of the following emissions in the plan area should be included in the GHG emission summary: carbon dioxide, methane, nitrous oxide, ozone, per fluorocarbons, hydro fluorocarbons, and sulphur hexafluoride.

The Draft EIS (Table 4A.2.3-4) provides information regarding criteria pollutant emissions from aircraft flights in tons per year for Alternative A. Under Alternative B, CPAI development plan proposes the construction of two additional airstrips for a total of three. Alternative C would not require any airstrips. Under Alternative D, CPAI development requires the construction of four additional airstrips for a total of five airstrips. To provide a complete and accurate assessment of criteria pollutant emissions from all proposed aircraft flights during construction, drilling, and operations in the ASDP area, EPA recommends that a table similar to Table 4A.2.3-4 be developed for each alternative B, C, and D under the applicant's development plan and included into the Final EIS.

Prevention of Significant Degradation (PSD) regulations ensure that the air quality in attainment areas do not exceed the level of the National Ambient Air Quality Standards (NAAQS). The mechanism created by Congress to meet this goal is the establishment of PSD increments. These increments define the maximum allowable increases over baseline concentrations that are allowed in an attainment area for a particular pollutant. Any increase above the PSD level indicates that significant deterioration of air quality has occurred. Only emissions increases above the baseline concentration are considered in determining how much increment has been consumed. Therefore, the Final EIS should provide additional quantitative data, information, and analysis to ensure that exceedences of PSD are avoided as required by the Clean Air Act.

To ensure that emissions from the proposed Alpine Satellite Development Plan do not exceed applicable NAAQS and PSD increments, EPA recommends that the Final EIS include a

detailed Ambient Air Quality Analysis. This Analysis should include an inventory of potential emissions sources, dispersion modelling to model predicted impacts from the proposed emissions sources from all five satellites (CD-3, CD-4, CD-5, CD-6, and CD-7) identified in the CPAI development plan. EPA recommends that the Ambient Air Quality Analysis be incorporated as an appendix to the Final EIS.

The Clean Air Act requires major stationary sources to install pollution control equipment in order to meet specific emission limitations. Specifically, CAA §111 establishes New Source Performance Standards (NSPS), which utilizes Best Available Control Technology (BACT) standards as mitigation measures. CAA §112 establishes National Emission Standards for Hazardous Air Pollutants (NESHAP), which utilizes Maximum Available Control Technology (MACT) standards as mitigation measures. The proposed CPAI Development Plan did not identify any mitigation measures that would be utilized in compliance with both NSPS and NESHAP. EPA recommends that mitigation measures for BACT and MACT be incorporated into the Final EIS, as required by the Clean Air Act and its implementing regulations.

EPA and the ADEC have authority to determine post-construction monitoring requirements based on the impact of the emission source on existing air quality. However, since the emission and air quality analysis has not been adequately quantified in the Draft EIS, EPA may not be able to determine if the CPAI development plan will be a source of significant criteria pollutant emissions. EPA recommends that the Final EIS include the appropriate types of mitigation, control technologies, and level of monitoring to demonstrate that potentially significant adverse impacts to air quality are adequately minimized.

CONSIDERATION OF ADDITIONAL REASONABLE ALTERNATIVES

There is significant new information regarding the State of Alaska's proposed road to Nuiqsut that warrants evaluation as a reasonable alternative to the applicant's proposed alternative for developing NPR-A satellites (e.g., CD-5, CD-6, and CD-7). EPA recommends expanding Alternative C to include two Sub-Alternatives (C-1) and (C-2). Both C-1 and C-2 would include evaluation and analysis of establishing a Nuiqsut Operations Center for oil and gas development of NPR-A. Sub-Alternative (C-1) would maintain the alternative in the Draft EIS with a Nigliq bridge crossing connecting CD-4 to the Village of Nuiqsut. Sub-Alternative (C-2) would differ from Sub-Alternative (C-1) in that road access would be from the Spine Road with a bridge crossing over the Colville River and road connection to Nuiqsut. In our opinion, this alternative is reasonable in fulfilling the applicant's stated purpose and need by minimizing potential significant adverse impacts to subsistence fisheries resources and users of the Nigliq Channel. Evaluating the State's proposal for the Colville River Road and Bridge crossing with CPAI's proposal would reduce delay and potentially result in major cost savings to the applicant.

CPAI'S ALPINE DEVELOPMENT PLAN

EPA review of the Draft EIS has identified significant adverse environmental impacts that should be avoided in order to provide adequate protection for environmental and subsistence resources. Certain components of Alternative A are not consistent with the stipulations of the 1998 Northeast National Petroleum Reserve-Alaska (NPR-A) Integrated Activity Plan/Environmental Impact Statement (IAP/EIS) Record of Decision (ROD). The Draft EIS indicates that adoption of Alternative A, as the preferred alternative, would require exceptions and

a general amendment to these stipulations. This Alternative would require the construction of a bridge across the Nigliq Channel to access NPR-A satellites (CD-5, CD-6, and CD-7), which would result in short-term adverse impacts to subsistence fisheries and users, and allow road access into NPR-A. The proposed CD-6 production satellite would be located within a designated 3-mile setback for Fish Creek - a traditional subsistence use area for fishing and hunting. Furthermore, development of the NPR-A satellites and the associated construction of gravel roads and pipelines would result in effects above the level of significantly restricting subsistence use for Nuiqsut by displacing key subsistence resources from local traditional areas (Appendix B. ANILCA §810 Analysis of Subsistence Impacts).

Corrective measures would require changes to this alternative, evaluation of additional alternatives, and identification of additional mitigation to reduce impacts below the level of significance. The State's proposed Colville River Road and Bridge project may be a reasonable alternative to fulfill the applicant's stated purpose and need for the proposed action. Therefore, additional analysis and discussion of alternatives and environmental impacts should be included in the Final EIS or a supplemental document.

CRITERIA FOR AN ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The Draft EIS does not identify an agency-preferred alternative. EPA recommends that the agency preferred alternative for the ASDP EIS meet the following criteria:

- Fulfills the purpose and need of the applicant's proposed action
- Considers public, Tribal, and agency comments
- Complies with local, state, and federal laws, regulations, and requirements
- Complies with the Clean Water Action Section 404
 - Represents the least environmentally damaging practicable alternative in terms of cost, technology and overall logistics
- Consistent with the Stipulations of the 1998 NE NPR-A IAP/EIS ROD
 - CD-6 located outside the 3-mile setback for Fish Creek [Stipulation 39(d)]
 - No gravel roads connecting to a road system outside of NPR-A [Stipulation 48]
 - Infrastructure maintains a 500-ft setback from all water bodies [Stipulation 41]
- Avoids and minimizes adverse impacts to subsistence resources and hunters
 - Aboveground pipelines on VSMs elevated a minimum of 7-ft high
 - Gravel roads and pipelines maintaining a minimum separation of 500-ft
 - Anti-reflective coating on pipelines

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.